

SKUNK CREEK NEAR NEW RIVER
FCD GAGE ID# 5588

STATION DESCRIPTION

LOCATION - This gage is located on Skunk Creek about 250 ft downstream of Fig Springs Road. Latitude N 33° 55' 34.5"; Longitude W 112° 04' 58.1". Located in the SW1/4 NW1/4 NW1/4 S29 T7N R3E, in the Daisy Mountain 7.5- minute quadrangle.

ESTABLISHMENT – Gaging began on June 21, 1995.

DRAINAGE AREA - About 4 square miles.

GAGE - This gage is a pressure transducer type instrument. The PT elevation is 1.14 feet gage height, levels of June 16, 2009.

There is no staff gage at this location.

There is one crest stage gage located on the right bank near the standpipe. The pin elevation of the crest stage gage is 1.86 feet gage height, levels of September 27, 2004.

ZERO GAGE HEIGHT – Zero gage height is taken to be an arbitrary point in space, elevation 2,188.04 feet NAVD 1988. Originally, the PT was at zero feet gage height. However, due to movement of the gage during a July 1999 event, the PT is currently located below zero gage height.

HISTORY - Gaging established on June 21, 1995. Crest stage gage installed Dec. 18, 1996. The CSG pin was at 1.0 feet gage height. The CSG was destroyed during the July 15, 1999 event. The pressure transducer and its foundation were moved several feet downstream during the July 15, 1999 event. The gage height of the PT decreased by approximately 0.40 feet. The crest gage was replaced following the July 1999 event, and surveyed on February 9, 2000. RM1 was tied into GPS grid in October 2000. Station ID number was changed from 5583 to 5588 with the addition of a precipitation gage (5585) at this location on June 28, 2001. Rating #2 developed in August 2001, and applied back to beginning of Water Year 2001. Rating #2 defined for flows from 1,500 – 2,500 cfs. New reference monument installed on July 17, 2003. PT elevation adjusted as of June 2, 2009.

REFERENCE MARKS –

RM-SKNKNR - is an FCD brass cap installed on the left embankment of Skunk Creek at the road crossing downstream of the gage. It is located approximately 20 feet east of RP-SKNKNRNR. Elevation 3.64 feet gage height, or 2,191.74 feet NAVD 1988, levels of September 27, 2004. This monument has been destroyed.

RP-SKNKNRNR – is a rebar installed on the hill on the southeast corner of the wash crossing at the road. Elevation 3.43 feet gage height, or 2,191.529 feet NAVD1988, GPS survey of August 2, 2001 and levels of September 27, 2004. Northing 1064408.268 feet, Easting 649583.867 feet

A number of brass caps were set in July 1995. Some have been recovered, but some have not been recovered. The following cross sections are established for indirect measurements. Some of the left bank points use existing brass caps. All of the following levels are based on the August 2, 2001 survey, unless otherwise noted.

XS-Gage is the cross section located at the gage. XSGLB is a rebar on top of the left bank. It hasn't been tied to gage height. Elevation 2,194.708 feet NAVD 1988. XSGRB is an FCD brass cap. Elevation 2,190.304 feet NAVD 1988, and 2.26 feet gage height.

RM4 or XS4LB is an FCD BC, found September 27, 2004. Located just south of the road on the same hill near RM-SKNKNRNR and RP-SKNKNRNR. Elevation 2.39 feet gage height or 2,190.40 feet NAVD 1988, levels of September 27, 2004.

Cross Section 5 is located about 250 feet downstream from the gage. XS5LB is an FCD brass cap. Elevation 2,188.047 feet NAVD 1988. XS5RB is a stake, elevation 2,190.812 feet NAVD 1988.

Cross Section 6 is located about 60 feet downstream from the XS5. XS6LB is an FCD brass cap, elevation 2,187.010 feet NAVD 1988. XS6RB is a stake, elevation 2,190.218 feet NAVD 1988.

Cross Section 7 is located about 80 feet downstream from XS6. XS7LB is an FCD brass cap, elevation 2,187.720 feet NAVD 1988. XS7RB is a stake, elevation 2,187.619 feet NAVD 1988.

Cross Section 8 is located about 110 feet downstream from XS7. XS8LB is a stake at elevation 2,187.836 feet NAVD 1988. XS8RB is a stake at elevation 2,189.023 feet NAVD 1988.

CHANNEL AND CONTROL -- The channel is a natural stream with a sandy bottom. The right bank is gradual with a large amount of vegetation like desert broom and mesquite. The left bank is nearly vertical near the gage cross section. This site has no meaningful control for low flows. Larger flows are channel control.

RATING - The current rating at the site is Rating #2. The rating is based on a combination of the original Rating #1 HEC-RAS analysis, and incorporation of four indirect measurements. The rating is mainly a shift from Rating #1. The rating was created by plotting the four indirect points aside Rating #1 on a log-log plot. A line was drawn between two of the indirect measurements. The line plotted closely to the slope-conveyance measurement from July 1999. Rating pairs were taken from along the straight log-log plot. There was little change at the low and high ends of the ratings, with the most significant change occurring in the middle. An additional survey was done to extend Rating #2 up to 2,500 cfs. Three points from 1,500 cfs to 2,500 cfs were added.

DISCHARGE MEASUREMENTS - For low discharges, wading measurements could be made near the gage. High flow measurements should be done via indirect methods. A good slope area reach is located just downstream of the road between RMs 5 and 8.

POINT OF ZERO FLOW – The PZF is estimated at about 0.0 feet gage height.

FLOODS – The peak discharge of record is 2,000 cfs and 4.3 feet gage height on January 21, 2010. A flood of 949 cfs at 3.85 feet gage height occurred on July 15, 1999. A flood of 258 cfs at 2.3 feet gage height occurred on June 20, 2000.

REGULATION - None known

DIVERSIONS - None known

ACCURACY - Good for most stages to about 4.0 feet gage height. Fair for levels up to about 5.5 feet gage height.

JUSTIFICATION - Provide flow information in upper watershed of Skunk Creek. Provides MCDOT warning for closure of roads in the Desert Hills area south of New River Road and north of Carefree Highway.

UPDATE - July 20, 2011
D E Gardner